<center>**REMARKS**</center>

Rejections

Rejection for Double Patenting

<u>Claims 1-38</u>

Claims 1-38 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 of U.S. Patent No. 6,208,971 in light of U.S. Patent No. 5,860,063 to Gorin. Because the pending claims also stand rejected under 35 U.S.C. § 103, Applicant will submit a terminal disclaimer upon notification that the §103 rejections have been withdrawn.

Rejections under 35 U.S.C. § 103

<u>Claims 1-2, 5-6, 12, 20, 21, 24, 31 and 35</u>

Claims 1-2, 5-6, 12, 20, 21, 24, 31 and 35 stand rejected under 35 U.S.C. § 103(a) as being obvious over Gorin in combination with U.S. Patent No. 5,675,819 to Schuetze and U.S. Patent No. 6,317,707 to Bangalore et al. Applicant respectfully submits that the combination is improperly motivated and furthermore does not teach each and every element of the invention as claimed in claims 1-2, 5-6, 12, 20, 21, 24, 31 and 35.

Gorin discloses recognizing input speech by comparing the input speech with pre-determined meaningful phrase clusters. The phrase clusters are created from a training corpus of spoken words based on the semantics of the words in the phrase.

Schuetze discloses generating a statistical thesaurus based on the lexical co-occurrence of words within a training text. As defined by Schuetze, two terms lexically co-occur if they appear within some distance of each other in the training text. The lexical patterns in the statistical thesaurus may be used to calculate values for different documents to determine their similarity.

Bangalore discloses building a linguistic model based on grammar syntactical concepts present in a training corpus of spoken words. Words and/or phrases are represented as feature vectors and clustered based on distances between the corresponding feature vectors.

Applicant previously argued that the combination of Gorin and Bangalore was improper because Gorin uses a semantic-based clustering system and Bangalore uses a

syntactic-based clustering system. The Examiner asserted that Bangalore bases his analysis on lexical significance "or the meaning of a word with respect to a dictionary." Applicant respectfully submits that Bangalore uses the term "lexical" to refer to the grammar, i.e., the arrangement of words or syntax, and not to the meaning, i.e. the semantics, of the text:

> Embodiments of the present invention provide a system that automatically builds a *grammatical model* from a corpus of speech. *The present invention uses clustering to group words and/or phrases according to their lexical significance.* Relationships between high frequency words called "context words" and other input words are identified. The words to be clustered are each represented as a feature vector constructed from the identified relationships. Similarities between two input words are measured in terms of the distance between their feature vectors. Using these distances, input words are clustered according to a hierarchy. The hierarchy is then cut at a certain depth to produce clusters which are then ranked by a "goodness" metric. *Those clusters that remain identify words or tokens from the corpus that possess similar grammatical significance.* [col. 1, line 59 through col. 2, lines 6 (emphasis added)].

Thus, it is clear that Bangalore equates lexical significant with grammatical significance. Since Bangalore is directed toward measuring grammatical (syntactical) significances among a group of words, Bangalore cannot be properly interpreted as teaching or suggesting semantic analysis. Similarly, Schuetze analyzes a document based on the lexical co-occurrence, i.e. the arrangement or syntax, of words in the document. Schuetze does not teach or suggest performing semantic analysis on either the words in the document, or on the lexical patterns that form the statistical thesaurus.

In order for the combination of Gorin, Bangalore and Schuetze to be proper, at least one of the references, or the art as a whole, must provide motivation for the combination. However, Gorin does not teach or suggest that the addition of syntactic-based clustering as taught by Bangalore or Schuetze would improve his semantic-based clustering system. Nor does either Bangalore or Schuetze teach or suggest any advantage in adding their syntactic-based clustering to a semantic-based clustering system as taught by Gorin. Therefore, there must be some teaching in the art of speech recognition to motivate the combination. Accordingly, Applicant respectfully requests the Examiner provide at least one prior reference that teaches or suggests the desirability of combining syntactical and semantic functions as claimed.

Even assuming that the combination of Gorin, Schuetze and Bangalore could be considered proper, the combination does not teach all the limitations of Applicant's invention as claimed. The Examiner is relying on Gorin as teaching all the claimed elements except for the vector representation in a semantic space, and the use of n-tuples for word agglomeration. The Examiner is relying on Bangalore for the former and Schuetze for the latter. However, Bangalore discloses that feature vectors are within a frequency space, not a semantic space. (Bangalore, col. 1, lines 27-32). Further, because Bangalore is directed to syntactic analysis, the frequency space cannot be properly interpreted as equivalent to a semantic space as claimed. With regard to Schuetze, the claimed word agglomeration "replaces the sequence of words with an associated n-tuple sequence." Schuetze uses syntactic word clustering to generate a statistical thesaurus, but does not teach or suggest that a cluster of words is used to replace words in text.

Therefore, the combination cannot render obvious Applicant's invention as claimed in claims 1, 2, 5, 6, 12-14, 16-21, 24 and 31-38, and Applicant respectfully requests the withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) over the combination of Gorin and Bangalore

Claims 7-11, 13-14, 16-19, 25-30, 32-34, and 36-38

Claims 7-11, 13-14, 16-19, 25-30, 32-34, and 36-38 stand rejected under 25 U.S.C. § 103(a) over the base combination of Gorin, Schuetze and Bangalore in view of U.S. Patent No. 6,631,346 to Karaorman et al. Applicant respectfully submits that the combination does not teach each and every element of the invention as claimed in claims 7-11 and 25-30.

Claims 7-11, 13-14, 16-19, 25-30, 32-34, and 36-38 depend from one of independent claims 1, 20 and 31. The base combination of Gorin, Schuetze and Bangalore fails to teach or suggest all the limitations of the independent claim. Karaorman is directed to parsing and tagging input words based on a scoring system. Karaorman contains no disclosure directed toward word agglomeration or vector representation of a sequence of words in semantic space as claimed in the independent claims.

Therefore, the combination of Gorin, Schuetze, Bangalore and Karaorman cannot be properly interpreted as disclosing each and every limitation of Applicant's invention as

claimed in claims 7-11, 13-14, 16-19, 25-30, 32-34, and 36-38, and Applicant respectfully requests the withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) over the combination.

Allowable Subject Matter

Applicant thanks the Examiner for indicating that dependent claim 15 contains allowable subject matter. At this time, Applicant respectfully declines the invitation to rewrite claim 15 as an independent claim because Applicant believes all the pending claims are allowable over the art of record.

SUMMARY

Claims 1, 2, 5-21 and 24-38 are currently pending. In view of the foregoing remarks, Applicant respectfully submits that the pending claims are in condition for allowance. Applicant respectfully requests reconsideration of the application and allowance of the pending claims.

If the Examiner determines the prompt allowance of these claims could be facilitated by a telephone conference, the Examiner is invited to contact Sue Holloway at (408) 720-8300 x309.
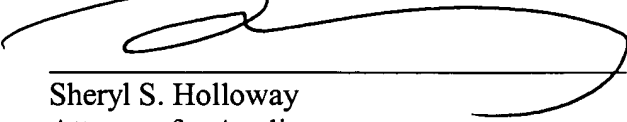
Deposit Account Authorization

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicant hereby requests such extension.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR
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